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ABSTRACT

The Preprimary Project is a comprehensive comparative study of early childhood services in nations on four continents. This report describes the project, the instrument devised to measure the project's effectiveness, and some preliminary findings. The project is sponsored by the International Association for the Evaluation of Educational Achievement (IEA) and has interrelated phases: (1) Phase 1: a household survey exploring the use of early childhood services by families in 11 countries; (2) Phase 2: 15 countries are involved in observation and interviews to assess the quality of children's experiences in the various care/education settings identified in Phase 1; and (3) Phase 3: an age-7 follow-up study of the children observed in Phase 2, including an assessment of their developmental status and their progress since the end of their preprimary experience. The instruments used in these phases were developed through a multi-step, collaborative process. Preliminary findings include the following: (1) teachers and parents agreed in their assessments of the importance of various educational goals; (2) teachers in Belgium, China, Finland, Greece, Hong Kong, Indonesia, Italy, Slovenia, and the United States ranked as most important categories of social skills with peers, self-sufficiency skills, and language skills; (3) in most countries, at least 75 percent of early childhood teachers are certified; (4) low percentages of certified teachers are found in Hong Kong (36 percent in kindergartens, 22 percent in day care), Thailand (10 percent in child care centers), and China (37 percent in rural kindergartens). Three appendices include Phase 2 measures, categories used in the three observation systems, and national sampling information. (JW)

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A COMPARATIVE STUDY OF EARLY CHILDHOOD PROGRAMS IN 15 COUNTRIES

The IEA Preprimary Project

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A report prepared for

The World Bank
Washington, D C , U S A

February 1996

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A Comparative Study of Early Childhood Programs in 15 Countries

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The Preprimary Project is a ground-breaking comprehensive comparative study of early childhood services in nations on four continents. The impetus for the study comes from the social, economic, and demographic changes occurring during the past three decades that have produced an accelerating demand for services for young children, and from the resulting need by countries for more comprehensive information to meet these emerging needs of families. Specifically, nations need information about the quality of children's experiences in currently existing early childhood settings and about the effects of those experiences on children's later development. Such information can help policymakers develop programs to meet the fast-growing demand for early childhood services. It also can assist government agencies in their attempts to integrate early childhood program planning with other long-term social and economic planning.

This report provides a brief description of the Preprimary Project and presents information about the instrument development procedures used in the study, an important aspect of any cross-national endeavor. The report also presents preliminary findings for several of the study's measures and discusses potential applications of the project's findings, instruments, and procedures.

IEA Preprimary Project Instrument Development Procedures

General Project Information

The IEA Preprimary Project is being conducted under the sponsorship of the International Association for the Evaluation of Educational Achievement (IEA), an independent international cooperative of research institutions in more than 60 countries that, in order to enhance learning, conducts comparative studies focusing on educational policies and practices. IEA is well known for its 25 years of comparative studies in science, mathematics, written composition, and other academic areas, primarily at middle-school and secondary levels of education. The IEA Preprimary Project is the cooperative's first study at the preschool level.

The IEA Preprimary Project is composed of the following three interrelated phases:

- **Phase 1:** This phase consisted of a household survey with a representative sample of families in 11 countries to explore their use of early childhood services. The findings are reported in Olmsted & Weikart (1994).

- **Phase 2:** The primary purpose of this phase is to observe the quality of children's experiences in the various care/education settings identified in Phase 1. Extensive observational and interview data is collected to examine the structural and process characteristics of early childhood settings and to explore the impact of these characteristics on children's developmental status at age 4.

- **Phase 3:** This phase is an age-7 follow-up study of the children observed in Phase 2, including an assessment of their developmental status and their progress since the end of their preprimary experience.

At the request of IEA, the High/Scope Educational Research Foundation serves as the International Coordinating Center (ICC) for the Preprimary Project. In this capacity, High/Scope supervises sampling and instrument development activities, organizes project meetings, processes and analyzes data, and prepares reports of project findings. David P. Weikart, Ph.D., serves as the International Coordinator of the study, while Patricia Olmsted, Ph.D., is the Deputy International Coordinator.

The study is directed by an international steering committee composed of the following persons, each of whom is an experienced early childhood researcher: Cigdem Kagitcibasi, Ph.D., (Turkey); Lilian Katz, Ph.D., (United States); Sylvia Opper, Ph.D., (Hong Kong); and David P. Weikart, Ph.D., (International Coordinator).

Phase 2, the topic of this report, is being conducted in Belgium, China (PRC), Finland, Greece, Hong Kong, Indonesia, Ireland, Italy, Nigeria, Poland, Romania, Slovenia, Spain, Thailand, and the United States. As of this date, all 15 countries have completed the Phase 2 data collection, and nearly all data have been prepared for analysis.

Conceptual framework. The conceptual framework for Phase 2 of the IEA Preprimary Project is based on the ecological model of development advocated by Bronfenbrenner (1979). This conceptual framework recognizes the complex interplay not only of humans and the environment but also of various environmental factors. The study draws on findings reported in the early childhood research literature and uses a cross-cultural perspective to explore the relationships of the five major groups of variables listed below.

Group of variables	Examples
▪ Family characteristics	Parental education and occupation Beliefs about importance of various areas of development for 4-year-olds
▪ Setting characteristics	Group size and adult/child ratio Teacher education, training, and experience
▪ Teacher characteristics	Management of children's time Beliefs about importance of various areas of development for 4-year-olds
▪ Child behaviors	Activities engaged in at the setting Involvement with other children
▪ Child developmental status	Cognitive development Language development

Figure 1 presents the study's conceptual framework, with each major group of variables indicated by a specific box-design. For some groups of variables, two or more types of measures have been used to collect information. For example, information about *teacher characteristics* was collected by observing the teacher in the early childhood setting (to determine management of children's time) and by interviewing the teacher (to determine beliefs about important areas of development)

Project strengths. A particular strength of the IEA Preprimary Project is that its participating countries provide variety on a number of dimensions, including form of government, population, and stage of development. In general, the participating countries are ones that do not have extremely high infant-mortality rates and thus have been able to move from concerns about child survival to concerns about providing adequate education and care services for their young children.

Another strength of the study is that it is conducted with the significant cooperation and contributions of early childhood researchers in the participating countries. Each participating country sets up its own coordinating center for the study, usually within a university or government agency. This coordinating center, under the direction of a National Research Coordinator (NRC), locates resources and supervises the study in the country. Consequently, in each country, the project is directed by a person familiar with the local provision of early childhood services, with the organizational aspects of local early childhood agencies/professionals, and with the country's major cultural/ethnicity features.

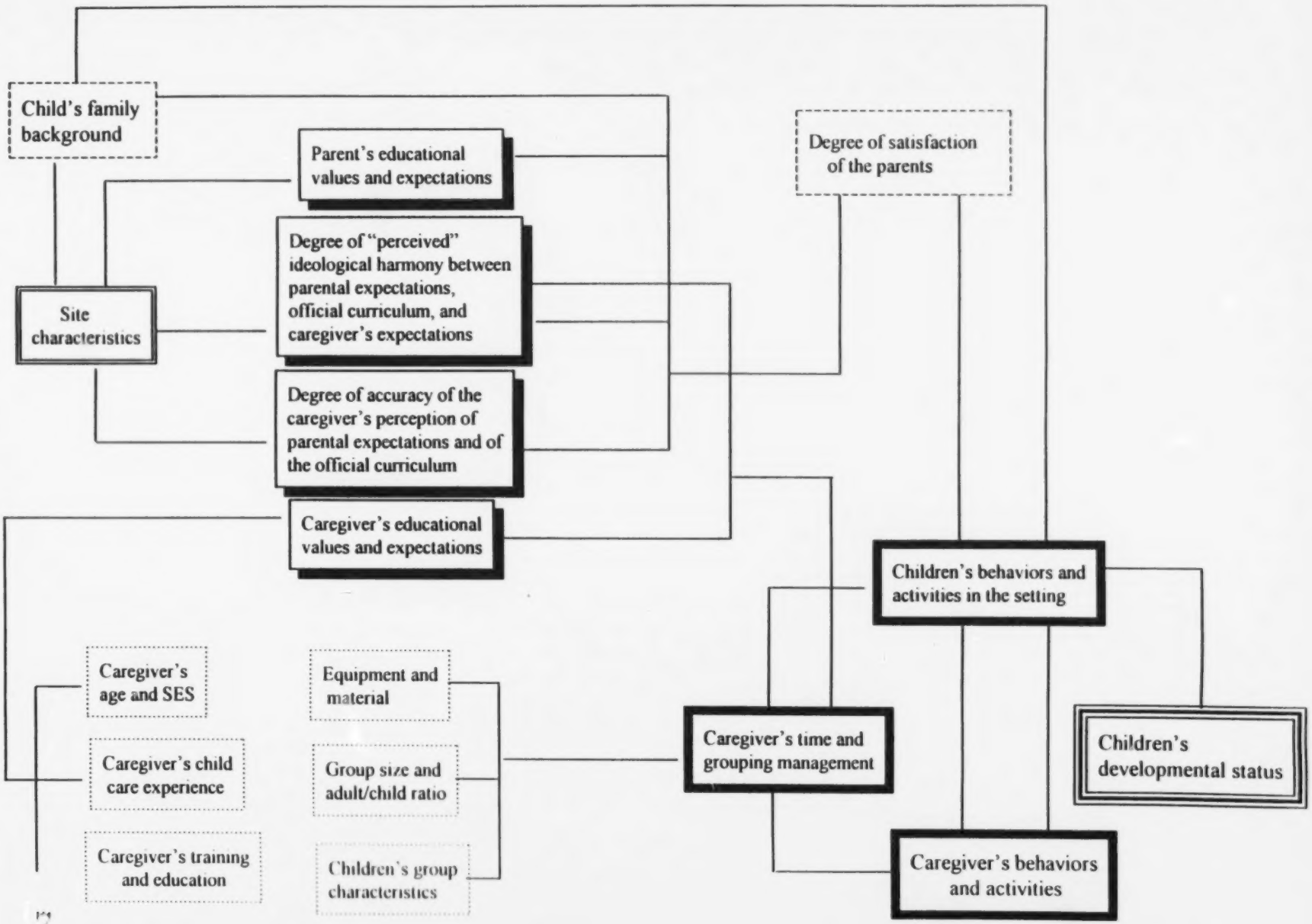
Child's family background
Parent's educational values and expectations
Degree of satisfaction of the parents
Degree of "perceived" ideological harmony between parental expectations, official curriculum, and caregiver's expectations
Site characteristics
Degree of accuracy of the caregiver's perception of parental expectations and of the official curriculum
Caregiver's educational values and expectations
Children's behaviors and activities in the setting
Caregiver's age and SES
Equipment and material
Caregiver's time and grouping management
Children's developmental status
Caregiver's child care experience
Group size and adult/child ratio
Caregiver's training and education
Children's group characteristics
Caregiver's behaviors and activities

Figure 1 IEA Preprimary Project conceptual framework

A critical related strength of the IEA Preprimary Project is the involvement of the NRCs in all stages of the development and implementation of the cross-national project. Prior to the development of the model presented in Figure 1, the NRC group and the project's steering committee considered various possible conceptual frameworks. The NRCs also met with the project's international sampling referee to discuss minimum sample sizes and the advantages and disadvantages of different sampling strategies. Most important, all NRCs participated actively in the development of all IEA Preprimary Project instruments--the interviews and questionnaires, the observation systems, and the child developmental status measures (see Appendix A for a listing).

The remainder of this section presents information about the cooperative instrument-development procedures followed in Phase 2 of the IEA Preprimary Project, with specific attention given to the *child developmental status* measures. The final two sections of the report include preliminary findings from the study and present potential applications of the findings, the procedures and the measures.

Development of the Phase 2 Instruments

During the development of the conceptual framework, the project steering committee and the NRC group discussed specific areas of measurement for each of the major groups of variables within the model (i.e., family characteristics, setting characteristics, teacher characteristics, child behaviors, and child developmental status). Then the NRCs formed five subgroups to examine existing instruments in each area and to begin to develop pilot-test versions of each of the Phase 2 measures. The NRCs from Belgium, China (PRC), Hong Kong, Nigeria, and Spain chaired the five subgroups and each of the 15 NRCs was a member of two or three subgroups.

Steps in developing the *Child Developmental Status* measures. To provide an example of the general instrument development process followed by each subgroup, the steps taken by the *child developmental status* measures subgroup are listed below.

1. At their 1988 meeting, the NRC group asked the *child developmental status* measures subgroup (Hong Kong [chair], Belgium, China, Finland, Italy, Nigeria, Spain, United States) to consider measures in seven areas:

   - General health status
   - Language development
   - Gross-motor development
   - Preacademic skills
   - Cognitive development
   - Social competence
   - Fine-motor development

2 During 1988-89, the subgroup asked all NRCs to submit copies of existing *child developmental status* measures in the above seven areas. Then each subgroup member assessed these measures for the following characteristics:

- Developmentally appropriate items
- Clear, culturally appropriate illustrations
- Few required materials needed, and any required materials available in all participating countries
- Suitability for administration by persons with little or moderate levels of training
- Features making the measure enjoyable for a young child

3 Using these criteria, the subgroup selected a set of measures and, at the 1989 NR7C meeting, presented them to the full group for consideration. Also, the subgroup recommended that based on the ages of the children and the amount of time needed to administer measures in all seven areas, the areas of *general health status* and *gross-motor development* be dropped from further consideration. The NRC group accepted this recommendation and proceeded to review and comment on specific items in existing measures selected by the subgroup.

4 During this 1989 meeting, the NRC group examined specific items, with each member considering the appropriateness of the item (i.e., purpose of item, pictures, language--after translation) for respondents in his/her country. One or more members of the group suggested revisions to many of the potential items. Though most items were considered useful by the NRCs, the illustrations and language-translations were frequently problematic. (See box for examples of adaptations made to specific items.)

5 Following the 1989 NRC meeting, the ICC worked closely with the subgroup to develop a pilot-version of each of the five *child developmental status* measures. These measures were distributed to NRCs, who pilot-tested them with 10 to 50 four-year-old children. The results of this pilot-testing were sent to the ICC, where they were compiled.

6 At their 1990 meeting, the NRC group reviewed pilot-test results from the various countries to determine whether

- The *order* of difficulty of items within a measure was similar for all countries
- The pass-rates for individual items for each country were in an appropriate range (indicating that individual items were neither too easy nor too hard)
- The pass-rates for individual items did not differ greatly from one country to another.

Based on pilot-test findings, the NRC group revised each measure item-by-item. Following the 1990 NRC meeting, the ICC produced a second pilot-version of each *child developmental status* measure and distributed the measures to the participating countries.

7 During 1990-91, all NRCs again pilot-tested all measures with 4-year-old children, making sure to include children of both genders who were also from different ethnic/cultural groups and from different socioeconomic groups. Once again, the pilot-test results were coded and sent to the ICC.

Some Adaptations of Specific Items

1. **Several developmental-measure items included pictures of girls and boys playing together. One NRC pointed out that in her country, preschool-aged boys and girls played separately. No NRC objected to each picture being limited to a single gender, so appropriate adaptations were made to the pictures.**

2. **One item on the cognitive developmental measure included pictures of varying numbers of eggs in an egg carton. Several NRCs reported that egg cartons were not used in their countries, so the picture was redrawn to show varying numbers of eggs in a large bowl.**

3. **In most pictures, when a child was shown performing an action, he/she used the right hand. However, in two pictures a child was shown performing an action with the left hand. An NRC reported that in her country children were strongly discouraged from being left-handed, and thus the pictures would look strange to them. The two pictures were redrawn to show the child using the right hand.**

4. **One item asked the child to identify a picture showing the position of a chicken relative to a chicken coop. Many NRCs did not recognize the pictured building as a chicken coop, and it soon became clear that although chickens and chicken coops existed in all countries, the appearances of chicken coops varied greatly. All NRCs thought the purpose of the item was important, so each NRC drew a culturally-appropriate chicken coop.**

5. **For some items, it was not possible to develop functionally equivalent translations. For example, for one item on the language measure, the administrator was to read a sentence and the child was to repeat it. Although in English the sentence was of an appropriate length and difficulty for a young child, the translations sometimes were much longer and more complicated. Since this meant that the various forms of the item would not be equivalent, the item was deleted from the measure.**

In addition to the adaptations to specific items described above, NRCs were allowed to redraw pictures to create an item that was culturally appropriate. For example, for a tree or a piece of fruit, they could substitute a more familiar variety of the item.

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8 At their 1991 meeting, NRCs reviewed the second set of pilot-test findings and made a few final revisions to individual items on the measures.

9 Following the 1991 meeting, the ICC prepared the final versions of each *child developmental status* measure and distributed copies to NRCs for use in Phase 2 data collection. Appendix A presents brief descriptions of the five *child developmental status* measures.

Observation systems. In preparation for the 1989 meeting, the NRCs prepared videotapes of a typical morning in each type of early childhood setting they planned to include in Phase 2. During the meeting, they viewed the videotapes and discussed the types of activities that children were engaged in, the adult behaviors exhibited, and the various patterns of activities occurring during the morning. NRCs found these videotapes to be valuable sources of information as they developed the Phase 2 observation systems. (*Note:* The project has developed a set of 15 professional videotapes showing typical early childhood settings in each of the 15 participating countries, *Sights and Sounds of Children*, 1994.)

In general, development of the *observation systems* followed the same pattern as development of the *child developmental status* measures. For the *observation systems*, the NRC group worked hard to develop systems that would not be primarily related to the developmental stage of a country or to the socioeconomic level of children attending the setting. Also, the group agreed that in order to make descriptive comparisons across various types of settings, the final *observation systems* should be equally appropriate for all types of early childhood settings (e.g., for a preschool program in urban Belgium, a child care center in a Hong Kong high-rise, or an informal group of children with a caregiver in rural Thailand).

Consequently, the NRCs decided to focus on the *processes* that occur in an early childhood setting rather than on the physical characteristics of the setting. The NRC group selected the following areas for observation: (1) adult's management of children's time, (2) children's activities and interactions with other children and adults, and (3) adult's behaviors and interactions with children.

Between 1989 and 1991, the NRCs pilot-tested several different observation procedures with the three systems. The group finally decided on the procedures described below.

- Observers used the three systems to collect data on two nonconsecutive mornings in each early childhood setting selected for the study. The typical daily observation period spanned 2½ to 3½ hours, with the minimum observation period being 2 hours.

- The Management-of-Time (MOT) Observation System was used to collect information continuously over the entire observation period and the Adult Behavior (AB) Observation System and the Child Activities (CA) Observation System were each used to collect

information for selected 10-minute periods. Appendix B presents the major categories included in the three observation systems.

- Using the MOT system, the observer recorded on the observation form the time and type of activity proposed for the children by the teacher when the observation period began and then recorded each time at which there was a proposed change in the activity. Whenever the observer entered a time and an activity change, he/she also noted whether the teacher intended that the children *listen* or *participate* during the time period and what *group structure* was proposed by the teacher (e.g., whole-group, part-group).

- On both the CA and the AB observation forms, the observer recorded information every 30 seconds throughout a selected 10-minute period. On the CA form, the observer entered the following data every 30 seconds: (1) the *activity* the child was engaged in, (2) whether the child was *listening* or *participating*, and (3) the *social context* of the child (e.g., small-group, large-group). On the AB form, the observer entered (1) the *physical behavior* or *verbal statement* of the teacher and (2) the *degree of involvement* of the teacher (e.g., supervising children, directly participating with children in activity).

- The AB observations were scheduled to occur at different selected times on each of the observation mornings, to capture a variety of adult behaviors across the two days. Likewise, the observations for any one child (of the maximum of four children) occurred at different times during the two mornings. Over the two observation mornings, the observer collected a total of 40 minutes of observation data for the teacher and a total of 40 minutes of observation data for *each* of 1-4 children. For most settings, the observer gathered a total of 5 to 7 hours of MOT observation data over the two days, with a minimum of 4 hours of information per setting.

- Since the MOT and the CA observation systems were used concurrently by the observers, it was possible to examine the relationship between the two data sets (e.g., what types of activities children were engaged in when the adult proposed a specific type of activity). Also, since the MOT and AB observation systems were used concurrently, it was possible to examine which adult behaviors occurred during various types of proposed activities.

The NRC group had two major goals in developing the observation systems for Phase 2 of the IEA Preprimary Project. First, they wanted to be able to describe what was actually happening in an early childhood setting (e.g., activities of children, behaviors of adults). Second, they hoped to assess the *quality* of an early childhood setting based on the *processes occurring within the setting*. To date, *quality* in early childhood settings has most often been assessed on the basis of input (static) indicators (e.g., teacher's years of experience, group size), and although the NRC group considered these indicators to be important to describe a good-quality program, they wanted to develop a system for assessing quality based on the actual activities and interactions occurring within a setting.

Interviews and questionnaires. In general, the NRCs followed similar procedures to develop the Phase 2 *interviews* and *questionnaires*. For example, all questions to be included in the Family Background Questionnaire and the Provider Survey were critiqued by each NRC and then pilot-tested twice with respondents in each country. In addition, NRCs were allowed to follow the interviewing procedures most commonly used in their country (e.g., face-to-face, telephone).

Phase 2 of the IEA Preprimary Project included data collection on teachers' and parents' beliefs/expectations about the important areas of development for young children. Since little was found in the early childhood literature about this topic, the NRC group specifically constructed a set of questions and materials for this instrument. Appendix A presents a brief description of this measure, and the next section of the report presents additional information, including findings from various countries.

The NRC group worked diligently to ensure that to the degree possible, each Phase 2 instrument was appropriate for the settings and children/families in each of the participating countries. Their activities included an initial review and revision of items and two rounds of pilot-testing, with further revisions following each one. After the Phase 2 instrument-development process was completed, countries began implementing their sampling plans and identifying settings and children/families. The next section of this report presents a brief description of the general sampling guidelines for Phase 2 and then presents findings for several of the Phase 2 instruments.

IEA Preprimary Project Phase 2 Findings

This section of the report consists of two parts (1) a brief description of Phase 2 sampling guidelines and (2) a presentation of several types of Phase 2 findings including

- Teacher and parent beliefs about important areas of learning for young children
- Characteristics of early childhood teachers (e g., education, experience)
- Class sizes and adult/child ratios in early childhood settings
- Preliminary child observation system findings for four countries
- Score distributions for child developmental status measures in four countries

Sampling Guidelines

Leslie Kish, Ph D., serves as the international sampling referee for all phases of the IEA Preprimary Project. Dr. Kish is a professor emeritus at the University of Michigan, where he was a founder of the Institute for Social Research. He is the author of *Survey Sampling* (1965) and *Statistical Design for Research* (1987). In the past he has served as president of the American Statistical Association (1977) and of the International Association of Survey Statisticians (1983-85). In his role as sampling referee for the study, Dr. Kish works closely with the project's International Coordinating Center (ICC) in supervising the preparation of the project's sampling documents, monitoring the development of national sampling plans, and granting formal approval of each national plan

The *target population* for Phase 2 consists of children from selected early childhood settings who were between age 4 years 3 months and age 4 years 9 months at the time of developmental status posttesting. (*Note:* For various reasons, a few countries expanded their age-range to include children between age 4 years 0 months and age 5 years 0 months at the time of posttesting.)

The project steering committee, the study's international sampling referee, and the ICC staff jointly developed the general sampling guidelines for Phase 2 of the study. The major guidelines were that (1) whenever possible, for any specific type of setting, the number of settings selected should reflect the frequency with which 4-year-olds use that type of setting; (2) to achieve sufficient sample sizes for national-level multivariate analysis at the end of Phase 3 (the follow-up study), assuming 20 % attrition, a minimum sample of 96 children should be selected from each type of setting, and (3) a maximum of 4 children should be randomly selected from each group setting, resulting in at least 24 of each type of early childhood setting included in the study.

For Phase 2, each participating country selected two or more types of early childhood settings (e g., kindergartens, child care centers) that were (1) used by large numbers of families or

(2) important for public policy reasons. In most participating countries, the researchers used data from Phase 1 of the IEA Preprimary Project to decide which types of settings to include in Phase 2. (Phase 1, a household survey of a representative sample of families collected data about parents' use of early childhood care and education settings.) Countries not having participated in Phase 1 used other methods to determine the major types of early childhood settings available and the percentages of preschool-aged children attending each type of setting. Usually this involved obtaining information from the Ministry of Education or from a variety of national/regional sources.

Whenever possible, for each type of setting that a country included in Phase 2, the national researchers obtained a complete up-to-date list of all such settings. Then, Dr. Kish and the ICC staff worked closely with the researchers to develop a system for selecting from each list a sample representative of the nation's total population of settings of this type.

For countries without complete up-to-date lists of settings, area sampling procedures were followed. For example, in Romania the national coordinator prepared a list of the 38 districts in the nation, along with many different types of information about each district. Dr. Kish and the ICC then prepared an ordered list of the 38 districts and used systematic sampling procedures to select 8 districts. For each selected district, the Romanian coordinator provided a complete list of the district's towns/areas, kindergartens, and kindergarten enrollments. By systematic sampling procedures, specific kindergartens were selected with PPS (probability proportional to size). Within each of these selected kindergartens, the coordinator developed a list of all children in the appropriate age-range and from this list, by systematic sampling procedures, selected 4 children for the study. Appendix C presents, for each country, information about the types of settings, the number of settings, and the number of families/children included in Phase 2.

Teacher and Parent Beliefs/Expectations

From birth to age 5, children grow in many ways and acquire important skills that build a foundation for later development. It is during this time that adults have the greatest influence and play an important role in all aspects of children's lives--socially, cognitively, emotionally, and physically. Because they are generally conscious of this, adults responsible for young children provide and select experiences that they consider to be preparation for future life, and these experiences are generally based on the adult's beliefs/expectations about the important areas of development for young children. Since in many countries young children attend early childhood settings, the beliefs/expectations of both parents and teachers are important in children's lives.

The IEA Preprimary Project has collected extensive data on teachers' and parents' expectations/beliefs by interviewing teachers and parents of 4-year-olds selected for the study in the 15 participating countries. The national coordinators jointly developed a set of eight categories of skills for the Expectations/Beliefs Questionnaire. Table 1 presents a list of these categories and a description for each. The national coordinators translated the category names

and definitions from English into their respective languages in a "functionally equivalent" rather than a literal manner. To facilitate data collection from nonliterate or semiliterate parents, the group of coordinators also developed picture-cards illustrating the skill categories. After a basic set of pictures was agreed on by all, each coordinator adapted the pictures to fit the families and children in his or her nation. Each coordinator pilot-tested the Expectations/Beliefs Questionnaire twice, and several revisions were made following the first pilot-testing. No revisions were needed after the second pilot-testing.

Table 1 Categories of skills in Expectations/Beliefs Questionnaire

Category	Description
Language skills	Child learns to express his/her thoughts and feelings verbally in a clear and appropriate manner
Motor/physical skills	Child improves his/her coordination, balance, and agility through large-muscle activities
Preacademic skills	Child learns basic concepts, improves small-muscle coordination, and begins to master skills necessary for reading, writing, and arithmetic
Self-assessment skills	Child learns to assess his/her own abilities and behaviors, begins to take pride in his/her accomplishments, and develops a sense of self-confidence
Self-expression skills	Child learns to express him/herself creatively through arts and crafts, music, dance, and/or imaginative play
Social skills with adults	Child learns to listen to, cooperate with, and respect adults
Social skills with peers	Child learns to share and cooperate with other children, to respect them, and to understand their feelings
Self-sufficiency skills	Child learns to be independent and to care for him/herself and his/her belongings in a responsible manner

The Expectations/Beliefs Questionnaire consists of several items, the first of which asked teachers and parents to rank the eight categories from 1 to 8 according to their importance. Only the findings from this first item are reported here. Using the rankings for teachers (or parents) from the 15 countries, ICC staff used Spearman-Rho correlations to examine the relationship between teachers (or parents) in various pairs of countries. From the correlation results, groupings of countries with similar rankings for teachers (or parents) were formed, and for each grouping the skill areas ranked as *most important*, (i.e., as #1, #2, or #3) and as *least important* (i.e., as #6, #7, or #8) in children's development were identified.

Teacher cross-national groupings. The analysis yielded two distinct groupings of teachers having similar rankings, one consisting of teachers in 9 nations and the other consisting

of teachers in 2 other nations. Teachers in 4 other nations fell into neither of these groups, because of the "unique" way the eight areas of development were ranked in each of these nations.

The 9-country group included the teachers in Belgium, China, Finland, Greece, Hong Kong, Indonesia, Italy, Slovenia, and the United States. The teachers in this group ranked as *most important* the categories of *social skills with peers, self-sufficiency skills,* and *language skills.* The three *least important* categories, according to this group, were *self-assessment skills, social skills with adults,* and *preacademic skills.* The fact that this 9-nation group contained teachers from three continents as well as from nations with varying degrees of urbanization suggests that perhaps there are some "worldwide" or "universal" beliefs among teachers.

The 2-nation group included teachers in Romania and Spain. Their rankings were similar to those of the 9-nation group except for one category. Teachers in Romania and Spain ranked *self-expression skills* instead of *preacademic skills* among the three *least important* categories, signifying that the *preacademic* area is of higher importance to them. Otherwise, the similarities between the 9-nation and 2-nation groups were enough to support the idea that there are universal beliefs among teachers about what areas of development are important for young children.

The rankings of the teachers from the 4 unique nations are summarized below.

- **Ireland** -- "Most important" areas are similar to those named by the 9-nation and 2-nation groups (*social skills with peers, self-sufficiency skills, language skills).* Two of the least important areas are similar to those named by the 9-nation group (*preacademic skills, social skills with adults*), but the third category ranked as "least important" was *motor-physical skills.*

- **Nigeria** -- Unique rankings include placing *preacademic skills* among the most important and placing *self-sufficiency skills* among the least important. These two rankings are in direct opposition to the rankings of the 9-nation group.

- **Poland** -- Unique rankings include placing *motor physical skills* among the most important and, like Nigeria, placing *self-sufficiency skills* among the least important.

- **Thailand** -- Unique rankings include placing *self-expression skills* and *preacademic skills* among the most important and placing *language skills* among the least important.

Parent cross-national groupings. Whereas teachers were somewhat similar across the various countries in their rankings of the most important and the least important areas of development, parents showed more diversity across nations. The correlational analysis for the parent rankings yielded three groups of nations characterized by similar parent rankings (containing 3 nations, 3 nations, and 2 nations, respectively) and 6 other nations in which parents' rankings were unique.

In general, across the participating nations, the three areas of development that parents considered *most important* were *social skills with peers*, *language skills*, and *self-sufficiency skills*. However, although parents in several countries ranked *social skills with peers* among the three *most important*, parents in a single country ranked them as *least important*, and parents in other countries considered them to be only moderately important. Similar comments could be made about parent rankings of *language skills* and *self-sufficiency skills*.

Agreement between teachers and parents. By collecting data from both teachers and parents, it is possible to look at the amount of agreement between the beliefs/expectations of the two groups in various countries. In some countries (e.g., Finland, Nigeria), there is nearly perfect agreement between teacher and parent rankings of the eight categories, meaning that both groups consider the same areas of development as important for young children. In other countries (e.g., China, Indonesia) the rankings of teachers are nearly opposite those of parents (e.g., in China, teachers ranked *preacademic skills* as *least important*, while parents ranked them as *most important*). An awareness of the amount of agreement between teachers and parents would seem to be important information that would be useful in preparing descriptive information about early childhood programs and in planning for communications between settings and parents.

Characteristics of Early Childhood Teachers and Settings

The Provider Survey questionnaire was used to collect information about several characteristics of the early childhood settings selected for Phase 2. These structural characteristics describe the context in which daily interactions and activities take place. They include physical characteristics (such as availability and use of space, materials and equipment), teacher characteristics (such as years of education, experience), patterns of operation, and the nature and frequency of setting/home contacts. This section presents the findings for two sets of Provider Survey questions (1) characteristics of early childhood teachers/caregivers and (2) class sizes and adult/child ratios for early childhood settings.

Characteristics of lead teachers/caregivers. Table 2 presents information about the lead teachers/caregivers in various types of settings in the Phase 2 participating countries. (The term *teachers* will be used to represent both groups of adults.) In most countries, at least 75% of the teachers are certified. Low percentages of certified teachers are found in Thailand (10% in child care centers), Hong Kong (36% in kindergartens, 22% in day nurseries), and China (37% in rural kindergartens). In general, although many countries included two or more types of settings in the Phase 2 study, the percentages of certified teachers in the different types of settings are similar (i.e., are less than 20 percentage points different). Only in China, Ireland, Thailand, and the United States, are there larger between-setting differences in the percentages of teachers certified

Table 2 Characteristics of lead teachers/caregivers by type of setting in various countries

Country	N	% Certified	Full-time Education: Mean (Years)	Full-time Education: Range (Years)	Years Working With 3 - to 5-year olds: Mean	Years Working With 3 - to 5-year olds: Range
Belgium						
Public kindergartens	30	100	13.7	11-16	15.8	3-33
Private kindergartens	29	100	13.7	12-17	13.3	2-27
China(PRC)						
Urban kindergartens	216	83	11.5	4-16	8.1	1-35
Rural kindergartens	191	37	10.4	4-14	3.8	1-15
Finland						
Child care centers	68	100	13.7	9.5-17	9.3	1-25
Greece						
Public kindergartens	53	100	--	--	17.0	1-31
Private kindergartens	26	96	--	--	8.9	1-27
Hong Kong						
Kindergartens	26	36	--	--	7.5	1-20
Day nurseries	25	22	--	--	6.6	1-20
Indonesia(Java)						
Urban kindergartens	39	100	--	--	8.0	2-30
Rural kindergartens	28	88	--	--	7.4	1-31
Ireland						
Nondisadvantaged preschools	25	67	14.3	10-17	8.7	2-20
Disadvantaged preschools	26	82	15.7	10-17	11.1	1-23
Disadvantaged national schools	27	96	15.4	3-21	7.2	1-22
Nondisadvantaged national schools	26	96	15.8	8-19	9.6	1-20
Italy						
Nursery schools	143	99	12.7	8-20	15.2	1-30
Nigeria						
Urban group settings	30	83	12.5	5-19	4.2	1-10
Rural group settings	17	94	12.4	3-18	4.7	1-10
Poland						
Urban kindergartens	78	92	13.8	3-18	7.7	1-38
Rural kindergartens	46	87	14.3	6-19	6.4	1-28
Romania						
Normal urban kindergartens	24	100	12.8	12-14	19.1	9-28
Normal rural kindergartens	21	86	12.6	12-14	19.7	1-44
Long urban kindergartens	24	93	12.9	12-17	16.0	2-30
Slovenia						
Kindergartens	44	79	15.9	11-20	11.7	1-30
Spain						
Public kindergartens*	29	89	12.1	3-21	12.0	1-34
Private kindergartens	25	92	12.8	3-19	8.3	3-31
Thailand						
Educational programs	32	90	15.0	10-18	9.3	1-27
Child care centers	22	10	10.2	4-16	6.5	1-30
United States						
Head Start	23	85	15.6	12-17.5	14.2	2-25
Public preschools	22	95	16.7	12-19	15.3	2-30
Other group settings	33	63	15.4	11-20	7.8	1-23

Note. The symbol * indicates that table reports findings although 40% to 50% of data not included for various reasons. Dashes indicate data are not available at this time.

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Table 2 also presents the years of education completed by the teachers in 12 countries. Teachers in Thailand (child care centers) and China (rural kindergartens) averaged the lowest number of years of education (10.2 and 10.4, respectively). Across all of the remaining types of settings in all countries except China (where teachers in urban kindergartens had 11.5 years of education), the average amount of education for teachers ranged between 12.1 years and 16.7 years. It is interesting to note that in several countries the lower limit for teacher education was as little as 3 or 4 years (China, Ireland, Nigeria, Poland, Spain, and Thailand).

The Provider Survey questionnaire contained an item asking for the total number of years that the teachers had worked with 3- to 5-year-old children. Across the 15 countries, the average number of years teachers had worked with preschool-aged children ranged from 3.8 years in China (rural kindergartens) to 19.7 years in Romania (normal rural kindergartens). In 11 of the 15 countries, some teachers had worked with 3- to 5-year-old children for as long as 30 years. Only Nigerian teachers reported a smaller range--from less than 1 year to 10 years of experience with preschoolers.

Class sizes and adult/child ratios in early childhood settings. Table 3 presents the class sizes and adult/child ratios for various types of early childhood settings in 12 countries. Across the countries, the median class size ranges from 14 children (in Ireland, in both types of "preschools"; in the U.S., in "other group settings") to 33.5 children (in China, in "rural kindergartens"). Knowing not just the median but also the range of class size in any given country greatly adds to our picture of early childhood settings in that country. For example, the Table 3 class-size ranges reveal that in some countries there are early childhood settings with as few as 5 children. More important, in 6 countries, there are early childhood settings with 49 or more children. Even if there are multiple adults present, to work with these large numbers of preschool-aged children in a single room has to be an enormous challenge.

The adult/child ratio findings in Table 3 provide extra information about the number of children individual teachers typically work with. Among the 12 countries with data available, Ireland reports the lowest median number of children per teacher (an adult/child ratio of 1:6 in one type of setting), while certain types of settings in China and Thailand report the highest median number (an adult/child ratio of 1:30). As with the class-size findings just reported, the range of adult/child ratios in the 12 countries is very revealing. In several countries, some settings report a very low number of children per teacher (e.g., Ireland, 1:2 and Greece, 1:3). However, the ranges indicate that the maximum number of children per adult in certain types of settings in China and Nigeria can be 60 or more, meaning that even early childhood classrooms with large numbers of children sometimes have only one adult present. The smallest ranges of adult/child ratios are found in the disadvantaged preschools in Ireland and in all three types of settings in the United States.

Table 3 Class size and adult/child ratio in early childhood settings in various countries

Country	N	Class Size			Adult Child Ratio	
		Mean	Median	Range	Median	Range
Belgium						
Public kindergartens	30	--	--	--	--	--
Private kindergartens	29	--	--	--	--	--
China(PRC)						
Urban kindergartens	216	27 9	28	7-60	1 15	1 6 to 1 45
Rural kindergartens	191	34 5	33 5	5-68	1 30	1 5 to 1 68
Finland						
Child care centers	68	--	--	--	--	--
Greece						
Public kindergartens	53	16 4	17	5-31	1 16	1 3 to 1 22
Private kindergartens	26	27 5	23	13-52	1 18	1 8 to 1 52
Hong Kong						
Kindergartens	26	27 8	27 5	18-43	1 22	1 16 to 1 34
Day nurseries	25	24 9	26	11-42	1 15	1 10 to 1 35
Indonesia(Java)						
Urban kindergartens	39	21 2	20	7-34	1 16	1 6 to 1 34
Rural kindergartens	28	29 9	30 5	9-49	1 17	1 9 to 1 45
Ireland						
Nondisadvantaged preschools	25	14 3	14	4-28	1 8	1 2 to 1 11
Disadvantaged preschools	26	14 8	14 5	6-36	1 6	1 4 to 1 36
Disadvantaged national schools	27	24 1	24	15-30	1 25	1 11 to 1 30
Nondisadvantaged national schools	26	26 7	28	15-34	1 26	1 15 to 1 34
Italy						
Nursery schools	143	18 5	18	6-49	1 11	1 4 to 1 29
Nigeria						
Urban group settings	30	31 2	24	8-66	1 22	1 8 to 1 60
Rural group settings	17	27 4	25	11-54	1 26	1 11 to 1 45
Poland						
Urban kindergartens	78	--	--	--	--	--
Rural kindergartens	46	--	--	--	--	--
Romania						
Normal urban kindergartens	24	20 4	20	10-35	1 20	1 10 to 1 35
Long urban kindergartens*	24	17 8	17	10-35	1 16	1 9 to 1 28
Normal rural kindergartens	21	18 6	19 5	7-25	1 16	1 9 to 1 25
Slovenia						
Kindergartens	44	17 5	18	11-25	1 10	1 6 to 1 22
Spain						
Public kindergartens	29	18 2	18	10-26	1 17	1 10 to 1 26
Private kindergartens	25	24 6	25	15-36	1 25	1 15 to 1 35
Thailand						
Educational programs	32	30 2	32	14-40	1 30	1 13 to 1 39
Child care centers	22	28 2	28	15-49	1 25	1 9 to 1 42
United States						
Head Start*	23	17 2	16	9-32	1 8	1 3 to 1 10
Public preschools*	22	19 3	18	9-39	1 7	1 4 to 1 12
Other group settings	33	15 4	14	5-40	1 7	1 4 to 1 14

Note The symbol * indicates that table reports findings although 40% to 50% of data not included for various reasons. Dashes indicate the data are not available at this time

Child Activities Observation Findings

Because the analyses of the child activities (CA) observation data are currently in process, it is not possible at this time to present child activities findings for all of the Phase 2 countries This section reports just four countries' preliminary findings on the kinds of child activities observed in various types of settings. Since the findings presented here are preliminary, neither the countries nor the specific types of settings observed in each country are identified by name (See Table 4) All four countries conducted CA observations in two different types of settings, but "setting 1" and "setting 2" were not of the same type across the four countries

Table 4 Percentage of observations in selected child activity categories by type of setting in four countries

	Activity						
Setting	% Motor/ Physical	% Expressive	% Preacademic	% Personal/ Social	% Transitional	% No Active Engagement	% Other
Country A							
Setting 1	23	14	11	26	10	11	5
Setting 2	24	12	13	22	8	15	6
Country B							
Setting 1	9	18	25	15	5	17	11
Setting 2	15	9	19	20	6	25	6
Country C							
Setting 1	24	18	18	18	8	8	6
Setting 2	26	18	20	16	7	7	6
Country D							
Setting 1	11	20	16	28	1	13	11
Setting 2	11	24	15	24	2	14	10

As the findings in Table 4 indicate, the pattern of percentages varies from country to country--indicating that the CA observation instrument is sufficiently sensitive to produce different patterns of findings. For example, in Country A, in both types of settings, approximately one quarter of the CA observations were in the *motor physical* category and 12% to 14% were in the *expressive* category. In contrast, in Country D, the percentages of observations in these two categories are nearly the reverse of those in Country A (i.e., 11% in *motor physical* and 20% to 24% in *expressive*).

Table 4 shows that in each of Countries A, C, and D, the percentages across setting 1 and setting 2 rarely differ by even 4 percentage points. Only in Country B are the percentages for several of the CA categories considerably different across the country's two types of settings. These findings suggest that although children in a country may attend different types of settings, observations reveal that, regardless of the type of setting they attend, children engage in basically similar activities.

Comparing CA percentages across the four countries reveals the following:

- The percentages for *motor physical* activities in Countries A and C are nearly twice those in Countries B and D (23% to 26% versus 9% to 15%).
- The percentages of observations in the *preacademic* category range from a low of 11% in Country A, Setting 1 to a high of 25% in Country B, Setting 1.
- The percentages for *personal social* activities (i.e., mainly child personal care) range from 15% (Country B, Setting 1) to 28% (Country D, Setting 1).
- Children in Country D had very small percentages for *transitional* activities (1% to 2%) compared with children in the other three countries.
- The percentages of observations in the *no active engagement* category range from a low of 7% in Country C, Setting 2 to a high of 25% in Country B, Setting 2.

Child Developmental Status Measures

The preliminary findings of the child developmental status measures analyses are very promising from an instrument-development perspective. The score distributions for the various instruments in the few countries analyzed are generally normal-shaped, and the range of scores is sufficiently wide to allow using the findings in examining the relationships between the child measures and other variables in the study.

Figure 2 presents the score distributions for the Cognitive Development, Language Development, Fine-Motor Skills, and Social Competence measures, each in a different country. Since the findings are preliminary, the countries are not identified by name. It is important to note that the countries whose score distributions are illustrated in Figure 2 made only small contributions to the item pools for the development of the child measures. Additional preliminary analyses have included (1) an examination of the pass rates for each item, which has confirmed that each test has progressed from easy to hard items, (2) a comparison of the high-scorers' and the low-scorers' pass percentages for individual items, which showed that on every item, high-scorers had a higher pass percentage.

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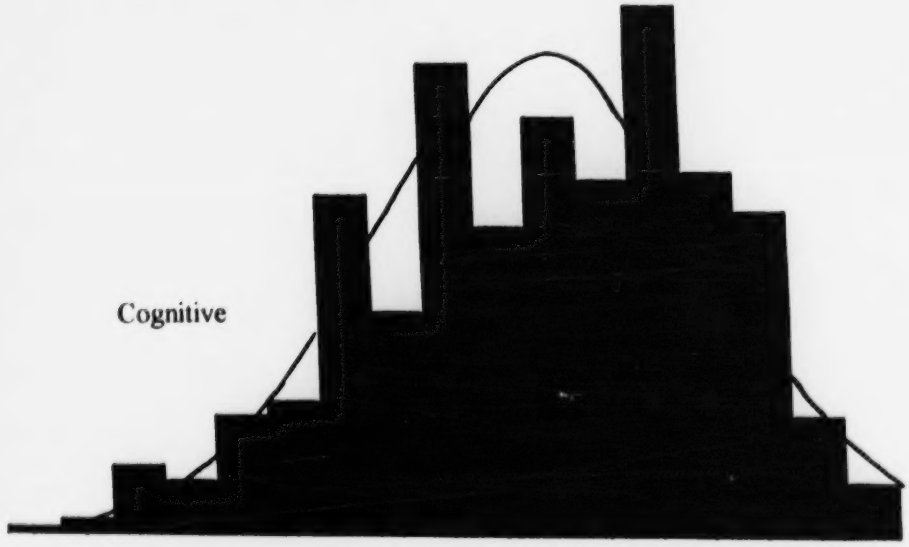
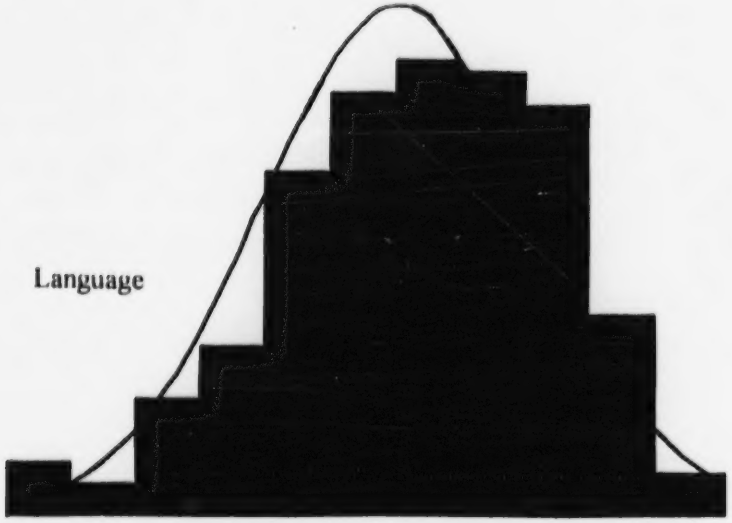
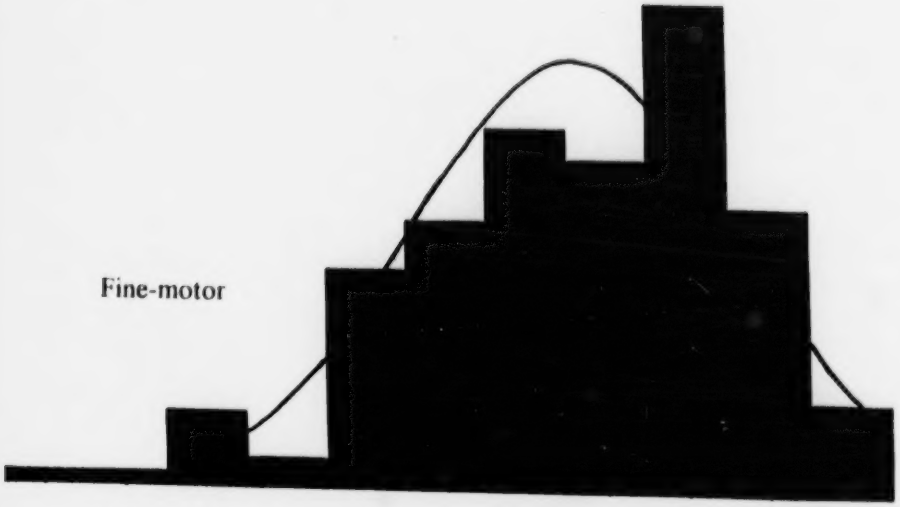
As mentioned above, these preliminary findings on the child developmental status measures are very exciting. It would appear that, by involving researchers from various nations and following a careful development process, it is possible to develop common measures of child developmental status that are useful in different nations.







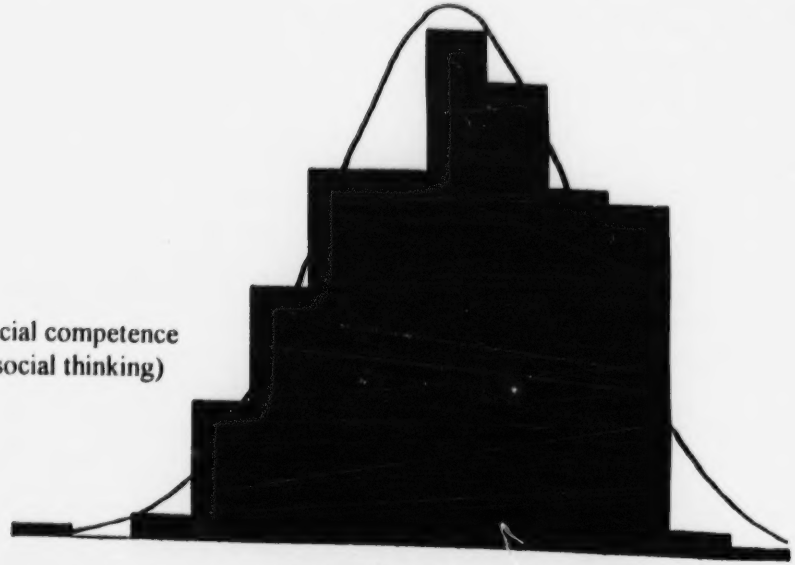


Figure 2 Distribution of scores for four child developmental status measures for children in different countries

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Potential Applications of the IEA Preprimary Project Research

The information, instruments, and strategies resulting from the IEA Preprimary Project have many potential uses. Nations participating in the project, as well as nations that did not participate, stand to benefit from the work of the IEA Preprimary Project researchers. Several of the study's participating countries are already using their own national findings to provide precise, detailed information to early childhood policymakers and professionals to use in improving the current services available to young children and their families. Knowing that the IEA Preprimary Project national researchers worked closely with experts in their sample selection and carefully trained their data collectors, those using the study findings can be sure that the data are trustworthy and that they can be generalized to all early childhood settings of the types included in the study.

In countries not participating in the IEA Preprimary Project, early childhood care/education agencies will be able to use the study's instruments and methodology to develop their own research-based findings concerning the characteristics and outcomes of various types of early childhood settings. Or one or more specific IEA Preprimary Project instruments might be used to collect a more focused set of findings (e.g., the Provider Survey questionnaire can be used to assess the implementation of regulations within a given country). This section of the report will present selected findings from a recent study in which a non-project nation (Country X) used the IEA Preprimary Project instruments and procedures to develop a picture of available early childhood services.

The Country X project included (1) determining the beliefs teachers and parents held about important areas of development for young children, (2) observing in early childhood settings, and (3) assessing the general developmental status of 4-year-old children in those settings. In addition, questionnaires were used to collect information about families and about the characteristics of the early childhood settings. The purpose of this approach was to produce research-based information on which to base planning and implementation of new policies and programs.

There are two types of early childhood settings in Country X, and both were included in the study. Most of the teachers in type A settings had participated in a 3-year teacher-training program, whereas few of those in type B settings had received any teacher training. Under the supervision of the IEA Preprimary Project international sampling referee, researchers selected a sample representative of Country X children attending the two types of settings. All type A and type B settings that were selected for the study agreed to participate, and all families/children

selected from these settings also agreed to be included. This careful selection of settings and families/children and the high rate of cooperation were critical to the success of the study.

The data collectors in Country X were selected from the country's elementary school teachers, primarily from those teaching 5- and 6-year-olds. IEA Preprimary Project staff trained the data collectors, and following their training in the use of the three observation systems, the data collectors showed excellent inter-rater reliability. Coding of the data was carefully monitored, with 10% to 20% of the data also coded by a second trained staff member to assess coding accuracy. For all instruments, the inter-coder agreement exceeded 98%. Similar procedures were followed to assess accuracy of data entry with the resulting inter-entry agreements for each instrument exceeding 99%. The care with which training of data collectors was conducted and the monitoring of the data coding/entry process, combined with the careful selection of the sample and the high participation rate, produced "high-quality" research-based findings.

The teacher expectations/beliefs findings in Country X were very different from those in the IEA Preprimary Project countries. As reported in the previous section of this report, teachers in 9 of the 15 project countries made similar selections when asked to choose young children's three *most important* (ranks #1, #2, #3) and *least important* (ranks #6, #7, #8) skill categories; teachers in 2 additional project countries showed quite close agreement with the 9-nation group. These findings suggested that perhaps there were some universal teacher beliefs about which areas of development are important for preschool-aged children.

The teacher expectations/beliefs findings in Country X were puzzling. Neither group of teachers (i.e., in type A or type B settings) presented a clear set of beliefs about the important areas of development for the children in their care. What was ranked by one teacher as an important skill area was ranked by another as relatively unimportant or least important. Each skill area received each of the possible ranks (#1 through #8) from at least some teachers. Also, no single area was ranked as most important (#1, #2, or #3) by more than half of the teachers. In other words, in Country X, no one or two areas were clearly preferred by most teachers as *most important* (#1, #2, or #3) or as *least important* (#6, #7, or #8). Clearly, on the matter of which areas of development are important for young children, there is little consensus among the teachers in Country X.

To look into this puzzling matter further, the researchers examined the relationship between Country X teachers' ranking of *preacademic skills* and various teacher background variables (e.g., years of teacher training, years of full-time education, years of teaching experience). An early childhood person who is familiar with the teacher-training program in Country X hypothesized, for example, that those teachers with more teacher training would be the ones who attach less importance to *preacademic skills*. The analysis, however, revealed no significant relationship between ranking of preacademic skills and teacher-background variables.

An additional analysis of the Country X teachers' expectations/beliefs examined the relationship between their rankings of skill areas and their allotment of classroom time. For each skill area, researchers were able to form three groups of teachers: a group who ranked that area as *most important* (#1, #2, or #3), a group who ranked that area as *moderately important* (#4 or #5), and a group who ranked that area as *least important* (#6, #7, or #8). For four of the eight skill areas under consideration (*language skills, motor physical skills, preacademic skills,* and *self-expression skills*), classroom activities specifically related to each area could be clearly identified. For each of the four skill areas just listed, researchers compared the percentages of time allocated to activities in the given area by teachers in two groups: those ranking the area as *most important* and those ranking the area as *least important*. For each area, there was a *nonsignificant* relationship between the ranking assigned by teachers and the amount of classroom time allocated. That is, teachers who considered *preacademic skills* to be *least important* nevertheless allocated the same percentage of classroom time to *preacademic* activities as did teachers who considered the skill area to be *most important*. In Country X, it appears that teachers do not decide how to allocate classroom time based on their personal beliefs about what is important for young children.

In a study such as the one in Country X, a key component is knowing--from actual observation--exactly what children are experiencing in a setting and what a teacher is doing. The three observation systems (Management of Time--MOT, Child Activities--CA, and Adult Behavior--AB) were designed to obtain this critical information. There were several major findings from the use of the observation systems:

- The experiences offered to children in type A settings and type B settings were nearly identical. The MOT Observation System documented that children were expected to spend approximately one third of their time on *preacademic* activities. Also, teachers devoted approximately 25% of the time to *personal social* activities, with nearly all of that time allocated to children's *personal care* activities.

- The CA Observation System findings were surprisingly similar for the two types of settings. The findings, based on approximately 9,000 observations in each type of setting, indicated that children spent about 25% of their time in *preacademic* activities and about half as much time in *arts and crafts* and *music* activities. A striking finding was, however, that children in both types of settings spent 24% of their time in *no active engagement*. In other words, for about one quarter of the time, children were "not occupied in an activity."[1]

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[1] The total of 9,000 observations is calculated by multiplying the number of children observed in each type of setting (approximately 114) by the number of observations per child (80).

- From the AB observations, it was noted that teachers in both types of settings were almost identical in their behaviors. Both groups primarily spent their time *teaching*, *directing*, and *supervising* children. Only rarely did teachers in either group provide *nurturing* or other *expressions of affection* to the children.

The last findings to be included here are from a set of multiple regression analyses relating family/child variables and setting variables to children's developmental status. As might be expected from the MOT, CA, and AB observation system results just presented, there was insufficient variability for many of the variables from these instruments to be included in the multiple regression analyses. Thus, it is not surprising that in general, the analyses found that family/child variables (e.g., mother's years of education), more frequently than setting variables (e.g., MOT variables), were significant predictors of the child's developmental status. In one regression in which setting process variables could be included, *language* development seemed to be affected by *time proposed by the teacher for prereading activities* (MOT variable), *amount of time teacher spent listening to the child's thoughts and ideas* (AB variable), and *number of adults with whom the child interacted* (CA variable).

The findings from this study have been shared with early childhood policymakers in Country X. At present, they are examining these results in the context of other relevant information (e.g., their stated goals for early childhood services, the nature and content of the current teacher-training program), and they plan to develop an overall plan for improving early childhood services for children and families in their country. Since previous research has shown the types of positive impact that specific early childhood programs *can* have on children's short-term and long-term development, the findings should provide important information for them to consider.

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Appendix A

IEA Preprimary Project Phase 2 Instruments

Interviews and Questionnaires

- Family Background Questionnaire. This measure is designed to collect information about the family characteristics of the target child. The questionnaire addresses such areas as parental educational attainment and employment, family structure, and household amenities.

- Provider Survey. This measure, administered to the teacher of the target child, focuses on the characteristics of a given setting, including its physical description (e.g., size of room), management (e.g., staff structure), enrollment (e.g., number of children), and materials/equipment available.

- Expectations Questionnaire. The measure explores parents' and teachers' beliefs about the areas of development they consider important for 4-year-old children. The questionnaire asks each group (i.e., parents, teachers) to order in importance eight areas of development, to predict which areas the other group would consider important, and to identify the areas that are the responsibilities of each group.

Observation Systems

- Child Activities Observation System. The purpose of this measure is to record the activities in which a target child is engaged, the amount of time spent in various activities, and the type of group structure in which the child is involved.

- Adult Behavior Observation System. The purpose of this measure is to note the general behaviors of the primary adult (e.g., teaching, child management), the specific behaviors directed toward a target child, and the nature of the adult's general involvement with the children.

- Management of Time Observation System. This measure provides a thorough picture of how the primary adult in a setting organizes children's time. The instrument records the activities proposed by the adult, the time of each proposed change of activity, and the proposed group structure for the activity.

Child Developmental Status Measures

- Cognitive Developmental Status Measure. This measure assesses the child's knowledge and skills in such areas as spatial relations, quantity, and time. The instrument requires each child to demonstrate understanding of each concept by performing an action, pointing to a picture, or responding verbally.

- Language Developmental Status Measure. This measure assesses the level of development of children's verbal skills. The instrument requires each child to perform a variety of tasks, such as answering questions, matching pictures to words and phrases, and repeating statements, to test both receptive and expressive language skills.

- Fine-Motor Skills Measure. This measure assesses the child's small-muscle coordination. The tasks include copying several shapes, performing a finger-touching activity, and making shapes from clay (or plasticine).

- Social Competence Measure. This measure is divided into two parts. The first involves adult ratings of a child's social skills, while the second involves "social thinking" questions intended to assess the child's knowledge of concepts about self and family, about other people's roles or feelings, and about social behaviors.

- Preacademic Skills Measure. This measure is designed to assess a child's development of school readiness skills. The measure involves asking the child to complete several tasks in each of three skill areas: number (e.g., rote counting), prewriting (e.g., copying letters), and prereading (e.g., visual perception).

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Appendix B

CATEGORIES USED IN THE THREE OBSERVATION SYSTEMS

Child Activities

A. PHYSICAL ACTIVITIES
  1. Gross-Motor
  2. Fine-Motor
B. EXPRESSIVE ACTIVITIES
  1. Dramatic/Imaginative Play
  2. Arts and Crafts
  3. Music
C. PREACADEMIC ACTIVITIES
  1. Reading
  2. Storytelling/Language
  3. Writing
  4. Numbers/Math
  5. Physical Science
  6. Social Science
  7. Others/Miscellaneous
D. RELIGIOUS ACTIVITIES
E. MEDIA-RELATED ACTIVITIES
F. PERSONAL/SOCIAL ACTIVITIES
  1. Personal Care
  2. Social
  3. Discipline
G. EXPRESSIONS OF EMOTION
  1. Positive
  2. Negative
H. DOMESTIC/ECONOMIC ACTIVITIES
  1. Domestic Activities
  2. Economic Activities
I. TRANSITIONAL ACTIVITIES
J. ACCIDENTS
K. NO ACTIVE ENGAGEMENT
L. OTHER/MISCELLANEOUS

Management of Time

A. PHYSICAL ACTIVITIES
  1. Gross-Motor
  2. Fine-Motor
B. EXPRESSIVE ACTIVITIES
  1. Dramatic/Imaginative Play
  2. Arts and Crafts
  3. Music
C. PREACADEMIC ACTIVITIES
  1. Reading
  2. Storytelling/Language
  3. Writing
  4. Numbers/Math
  5. Physical Science
  6. Social Science
  7. Others/Miscellaneous
D. RELIGIOUS ACTIVITIES
E. MEDIA-RELATED ACTIVITIES
F. PERSONAL/SOCIAL ACTIVITIES
  1. Personal Care
  2. Social
  3. Discipline
G. (No equivalent Activity)

H. DOMESTIC/ECONOMIC ACTIVITIES
  1. Domestic Activities
  2. Economic Activities
I. TRANSITIONAL ACTIVITIES
J. (No equivalent Activity)
K. WAITING
L. (No equivalent Activity)
M. FREE ACTIVITIES
N. MIXED ACTIVITIES

Adult Behavior

A. INFORMATIONAL/FACILITATIVE TEACHING STRATEGIES
  1. Giving/Receiving Information/Knowledge (content)
  2. Giving/Receiving Information/Knowledge (non-content)
  3. Giving Demonstrations
  4. Eliciting Information/Knowledge (concepts)
  5. Eliciting Information/Knowledge (thoughts)
  6. Eliciting an Action or Behavior
  7. Offering Choices
  8. Encouraging Activity
  9. Providing Assistance/Clarification/Suggesting Solutions
  10. Providing Feedback (positive)
  11. Providing Feedback (negative)
B. PARTICIPATION/SHARED ACTIVITIES
C. NURTURANCE/EXPRESSIONS OF AFFECT
  1. Engaging in Affectionate/Friendly Behavior
  2. Giving Reassurance and Support
  3. Engaging in Neutral Behavior
  4. Engaging in Negative Affective Expression/Behavior
D. CHILD MANAGEMENT
  1. Establishing/Reminding Child of Rules
  2. Verbal/Physical Intervention
  3. Giving an Order
  4. Giving Permission
  5. Refusing Permission
  6. Listening to Child's Requests for Permission
  7. Problem-solving/Conflict Resolution
  8. Providing Feedback (positive)
  9. Providing Feedback (negative)
  10. Calls for Attention
E. SUPERVISION
F. TRANSITIONAL ACTIVITIES
G. ROUTINE ACTIVITIES
  1. Program Planning and Operation
  2. Distributing Materials and/or Rearranging Furnishings
  3. Child-related Personal Care
  4. Maintenance of the Setting
H. PERSONAL ACTIVITIES

Appendix C

Number of settings and children/families for group settings in all countries in Phase 2 of the IEA Preprimary Project

Country	Achieved Sample Size	
	Settings	Children/Families
Belgium		
Public kindergartens	30	68
Private kindergartens	29	73
China(PRC)		
Urban kindergartens	216	462
Rural kindergartens	191	414
Finland		
Child care centers	68	112
Greece		
Public kindergartens	53	95
Private kindergartens	26	84
Hong Kong		
Kindergartens	26	101
Day nurseries	25	97
Indonesia(Java)		
Urban kindergartens	39	153
Rural kindergartens	28	98
Ireland		
Nondisadvantaged preschools	25	100
Disadvantaged preschools	26	100
Disadvantaged national schools	27	100
Nondisadvantaged national schools	26	100
Italy		
Nursery schools	143	500
Nigeria		
Urban group settings	30	210
Rural group settings	17	119
Poland		
Urban kindergartens	78	292
Rural kindergartens	46	166
Romania		
Normal urban kindergartens	24	88
Normal rural kindergartens	21	84
Long urban kindergartens	24	104
Slovenia		
Kindergartens	44	143
Spain		
Public kindergartens	29	115
Private kindergartens	25	100
Thailand		
Educational programs	32	124
Child care centers	22	92
United States		
Head Start	23	109
Public preschools	22	107
Other group settings	33	193